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METHOD FOR PRODUCING LATERAL EJECTION APPARATTII FOR HELICOPTER OR PLANE

BACKGROUND OF THE INVENTION

Field of the invention

The new invention relates to the method and devices of aircraft or theoretically, objects in motion, specifically improvements and advantages, which, allow for the first time all occupants of helicopters and planes to eject laterally and safely from a helicopter or plane.

Description of prior art

Until now the failing has been that occupant ejection was possible only on a horizontal and even longitudinal axis as in military fighter jets, leaving many thousands of individuals and parties without access to a timely means of emergency exit in the event of a helicopter or plane failure. Longitudinal ejection cannot provide for equal access to an emergency exit, because aircraft are built along the longitude, dictating the larger surface areas along the right and left latitude as the sole reasonable and safe area for emergency exits of equal access in a commercial airliner. All ejection devices until now as cited in the references are void of the ability to laterally eject a commercial aircraft or helicopter aircraft occupant to safety. Subsequently, the weight of an aircraft occupant is now placed directly on load bearing triple monorails being employed for the first time. The extent to which the lateral ejection aerodynamic tool re-orders design throughout the complete range of fields defining aerodynamics is not limited to but can be defined as affecting Pat. Nos. cited in the references, which will have to under go moderate structural changes, so that in (50) fifty years time, most of the international air fleet will possess lateral ejection equal access total occupant timely emergency exit access. Moreover the lateral ejection tool is sightable by utilizing an aiming mechanism directed by a mechanized gear console handle and swing arm barrel sight seat swivel; only when existing fuselage area allows; actuated by cylindrical telescoping hydraulic arms capable of realizing near perfect, or, perfect theoretical, lateral ejection respective of the real time forward motion (pressure) of a failed aircraft, by targeting preferred seat trajectories towards any quadrant within a sphere when right and left bipolar seat pairs are configured in a combat or high performance helicopter or plane; if said aiming mechanism operates independent of a robotic arm, which costs would perhaps become prohibitive except in luxury aircraft or military designs in an exemplary embodiment. The aiming mechanism can work by pushing and pulling the lateral ejection mechanism with attached seat chassis, swinging from a center console containing the blast shield and a swivel plate on which the triple monorails and seat are mounted. Practically, the lateral triple monorails may be mounted by bolts and welding to any seat portal and sighted to eject 90 degrees perpendicular to the horizontal longitudinal axis, or, sighted along the angle 4 to 6 degrees preferred aft of the perpendicular in order to avoid a failed aircraft roll; in accordance with the spirit of the lateral ejection objectives; again, depending upon area limitations imposed by existing aircraft occupancy design, the 90 degrees, right-angle can be the common sighting, and is shown here in the abstract and drawings installed in a corporate helicopter fuselage, sighted at 90 degrees with bottom mounted tail fins turned 4 to 6 degrees aft of the aircraft occupancy. Multiple altitude appropriate parachutes could be added to each seat chassis to advantage with this invention, especially in commercial airliners. In other words, the preferred embodiment and the most important considerations of the lateral ejection invention are described here, not the exciting design implications of the lateral ejection utility, I just described.

SUMMARY OF THE INVENTION

Therefore, I have invented a method and stable mechanism by which accordingly all aircraft occupants of helicopters or planes are ejectable. The method of lateral ejection, which apparattii are produced by arranging any set of tracks or guide rails, here a set of load bearing triple monorail tracks with circumventing roller trucks often associated with skateboarding wheel "trucks", arranged laterally on a right angle to each other, along the bottom underside and back of an aircraft occupant accommodation, here known as a seat chassis. The seat chassis preferred embodiment features a pair of

circumventing roller trucks guided monorail tracks attached to the bottom underside of the chassis with a third monorail with circumventing roller trucks along the back and at a right angle to the bottom two monorails. The circumventing roller trucks insure stable ejection pitches during foreseen catastrophic rolls, spins or spin and roll movements, impacts and collisions of a failed aircraft. Additionally, as depicted in the preferred embodiment, the lateral ejection apparatus affixes to any aircraft seat or seat platform by means of an integrated construction system mold constituting the flange and drillable top outer surface of the monorails outer track box. The seat chassis and outer track box are prevented from moving along the wheel trucks of the inner monorails by the rocket catapults secured to the protective blast shield. This connection between the catapults and the blast shield, secures the seat chassis in position on the tracks until when the catapults burst the connection seals upon ignition of the ejection sequence. Deployable head, neck and chest airbags along both sides of the seat chassis and for positioning the legs and torso for safe ejection are necessary to the invention. The rocket propelled greater sliding door panel with an interior fixed conventional hinge door has a pair of adequate pneumatic devices at the top and bottom of the sliding greater emergency door panel; with two common latch catches to prevent the sliding door panel from recoiling into the path of the ejecting seat chassis. At least three cylindrical compartments, which attach horizontally to the back of a seat chassis, and contain three altitude appropriate parachutes with a hermetically sealed sensor fuse box are optimal with this invention. The sliding door is configured to open only during an emergency ejection sequence, while the conventional hinge type door is the operational door for use by pilots or occupants. To anyone skilled in these arts, the features, objects, and advantages are obviously apparent, if not so already, but must be expounded while reading the proceeding detailed description of the invention, referring to the drawings.

ntional hinge door **33**, and an exterior sliding door arm **32**, located near the lower right corner of the sliding emergency greater door panel. **46**, are the spring loaded latch catches to prevent the recoiling of the sliding greater door panel.

FIG. 2 is a side view of an aircraft occupancy, here a helicopter with a closed fixed emergency greater sliding door panel **34**, and interior operational conventional hinge door **33**.

FIG. 3 is a side view of the aircraft occupancy **37**, and the fixed emergency greater sliding door panel **34**, with interior operational conventional hinge door transversing the aircraft fuselage by means of pneumatic rockets **35**,**36**. **FIG. 3** also shows a seat chassis **38**, as it is fitted onto triple monorail ejection devices **FIG. 6.**, during the ejection sequence when the airbags **40, 41**, and the seat chassis, right side airbag **42, BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a transparent side view of an aircraft occupancy, here a helicopter fuselage with two of the main lateral ejection components, triple monorails, mounted on the supporting track launcher platform legs in which the bottom tail fins are slotted.

FIG. 2 is a side view of an aircraft occupancy, here a helicopter with a closed fixed emergency greater sliding door panel, and interior operational conventional hinge door.

FIG. 3 is a side view of the aircraft occupancy, and the fixed emergency greater sliding door panel with interior operational conventional hinge door transversing the aircraft fuselage by means of pneumatic rockets.

FIG. 4 is a side view of the path of the laterally ejecting outer track box with attached seat chassis, after ejecting from the aircraft occupancy.

FIG. 5 is a side view of the laterally ejected devices initiating parachute extraction by means of standard drogue chute extraction, after the ejected apparattii have cleared the tail of the aircraft.

FIG. 6 is a side view of the main triple monorail components of the triple monorail lateral ejection method.

FIG. 7 is a side view of the outer track box to which any seat chassis can be mounted and is movable along the inner tracks and supporting tracks.

FIG. 8 is a side view of the triple monorails after the outer track box has been ejected, revealing the blast shield and catapult rocket base seals on the blast shield.

FIG. 9 is an anterior side perspective view of the triple monorails, showing the blast shield, and three monorail track support columns.

FIG. 10 is a transparent top, side or bottom view of the back monorail track.

FIG. 11 is a transparent top, side or bottom view of one of the two bottom positioned monorail tracks.

FIG. 12 is top view of the supporting track roller trucks configuration.

FIG. 13 is a top view of the corner elbow supporting track roller trucks configuration.

FIG. 14 is a top view of an aircraft seat with three parachute cylinders along the back.

FIG. 15 is a top transparent view of the hermetically sealed altitude appropriate parachute ignition fuse box.

DETAILED DESCRIPTION OF THE INVENTION AND DRAWINGS

FIG. 1 shows an aircraft occupancy, in this instance that of a helicopter having a fuselage **37**, which is large enough to be fitted with two triple monorail ejection devices **FIG. 6**, on each side of the aircraft one behind the other. **FIG. 1** is a transparent side view of an aircraft occupancy, here a helicopter fuselage with two of the main lateral ejection components **FIG 6**, triple monorails, mounted on the supporting track launcher platform legs **9**, in which the bottom tail fins are slotted. The helicopter fuselage has a set of sliding door **34**, tracks **30,31**, an interior operational conve open simultaneous with the pneumatic rockets **35, 36** transversing the emergency greater sliding door panel to the rear of the fuselage

FIG. 4 is a side view of the path of the laterally ejecting outer track box **5**, with attached seat chassis **38**, after ejecting from the aircraft

4 occupancy, and guided towards clearing the tail of the aircraft by the outer track box **5**, tail fins **11**. The left side head, neck, and chest protector airbag **43**, is shown with the right side airbag concealed behind it **42**.

FIG. 5 is a side view of the laterally ejected devices initiating parachute extraction by means of standard drogue chute **39**, extraction, after the ejected apparattii have cleared the tail of the aircraft. Similarly, to **FIG. 4, FIG. 5** identifies the left side airbag **43**.

FIG. 6 is a side view of the main triple monorail components of the triple monorail lateral ejection method, comprising two bottom monorails **1**, and one monorail positioned at a right angle **2**, to the bottom two monorails. Each monorail consists of wheel truck axel bases **3**, and truck rollers **4**. The monorails are surrounded by an outer track box **5**, which is movable laterally along the triple monorails, and to which any seat may be attached by means of a flange **44**, located at the top interior corner of the outer track box; and by a drillable surface **45**, on the outer track box at the center of the lower top section of the outer track box. When bolting or welding at the drillable area **45**, one must leave room for the two rocket catapults **6,7** which are housed in the rectangular area between the bottom two monorails and directly below the drillable surface area **45**. **FIG. 6** clearly shows the support track **8**, including the corner elbow section **12**, and the rubber knobs **14**, which seal these tracks from open air contact, along with a mesh cloth cover **13**, depicted partially and in transparency. The device further is supported on launcher platform legs **9**, a blast shield **10**, seen partially in **FIG. 6**, and divided such that two bottom mounted tail fins **11**, are slotted between the platform legs. The area of circumference **B**, designates the angle , being the distance between the launcher platform legs in which the tail fins are slotted as the maximum angle the tail fins may exit the leg hole slots. **24**, is the hermetically sealed sensor fuse box attached by a rip cord to both the outer track box and the blast shield. The rip cord **26, FIG. 15**, opens the hermetic seal of the sensor fuse box upon separation of the outer track box from the aircraft fuselage during ejection, allowing for a controlled triggering of the appropriate parachute.

FIG. 7 is a side view of the outer track box5, to which any seat chassis can be mounted and is movable along the inner tracks and supporting tracks. The corner elbow right angle connector **12**, which attaches the lower portion of the outer track box to the upper portion of the outer track box is a standard elbow coupling device of triangular right angle construction. Both tail fins can be seen in **FIG 7**, in their unslotted posture, while the rocket catapults **6,7**, are concealed behind the mesh cloth end cover. **24, FIG. 7**, shows the sensor fuse box as attached to the outer track box after separation.

FIG. 8 is a side view of the triple monorails after the outer track box has been ejected, revealing the upper portion of the blast shield **15**, and catapult rocket base seals **16,17** on the blast shield, and which base seals prevent the outer track box from moving or sliding on either the monorail inner tracks **1,2**, or the support track **8**. These two seals **16,17** are the only locking mechanism which prevent the outer track box from moving prior to ejection, and which seals are burst do to the ignighting of the rocket catapults and the combustion expansion within the seals which sheer this only locking connection between the launcher platform base and the movable outer track box.

FIG. 9 is an interior side perspective view of the triple monorails, showing the blast shield **15**, in its entirety, and three monorail track support columns **21, 22, 23**. 46, is the back reinforcing panel of the launcher platform.

FIG. 10 is a transparent back view of the back monorail track **2**, a cross sectional piece of the blast shield **15**, and the roller truck wheel bases **3**, supporting the roller truck wheels **4**. **FIG. 10**, line **C** is a back side view of the back monorail track support column, **and 21, FIG. 10** the same support column **21**, as it looks next to the back reinforcing panel of the launcher platform **46**.

FIG. 11 is a transparent top, side or bottom view of one of the two bottom positioned monorail tracks **1**, a cross sectional piece of the blast shield **15**, a cross sectional of the mesh cloth end cover **13**, the roller truck bases **3**, and the roller truck wheels **4**. Line **A-A** corresponds with line **A-A** of **FIG 14**, and represents the positioning of the monorail lower front monorail track beneath the knee and thigh of the seat chassis occupant. **23** is a top view cross sectional piece of the bottom monorail track support column.

FIG. 12 is top view of the supporting track **8**, roller trucks configuration **3, 4**, which is identical to the roller trucks **3, 4**, design used on the inner monorail tracks **1**. Also shown is the joining abutment between the blast shield **15**, and the support track **8**. **FIG. 12, 23** shows how the support column **23**, intersects a portion of the supporting track roller truck alignment, and the other portion of the supporting track roller trucks is aligned perpendicular to the horizontal longitude of the blast shield.

FIG. 13 is a top view of the corner elbow **12**, supporting track **8**, roller trucks configuration **3, 4**, and the mesh cloth end cover **13**.

FIG. 14 is a top view of an aircraft seat with three parachute cylinders **18, 19, 20**, along the back of the seat chassis. Line **A-A** is the position of the monorail track shown in **FIG. 11**, beneath the knee and thigh of the seat chassis occupant. **21, 22, 23**, are top views of the inner monorail tracks support columns.

FIG. 15 is a top transparent view of the hermetically sealed **25**, altitude appropriate parachute ignition fuse **28**, box **24**, which is connected to the blast shield **15**, by a rip cord **26**, and rip cord base **27**, that pull the hermetic seal **25**, from the fuse box **24**, upon ejection of the outer track box from an aircraft to which the fuse box can be attached on the top outer portion of the back portion of the outer track box. **29** is the ignition wire for the three altitude appropriate parachutes **18, 19, 20**.